



DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2022-1662; Project Identifier MCAI-2022-00689-T]

RIN 2120-AA64

Airworthiness Directives; Bombardier, Inc., Airplanes

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Notice of proposed rulemaking (NPRM).

SUMMARY: The FAA proposes to adopt a new airworthiness directive (AD) for certain Bombardier, Inc., Model BD-100-1A10 airplanes. This proposed AD was prompted by multiple reports of erratic electrical system status on the push button annunciators (PBAs) and the engine instrument and crew alerting system (EICAS) while on-ground and during flight. This proposed AD would require a records check and replacement of affected left-hand (LH) direct current power center (DCPC) units. The FAA is proposing this AD to address the unsafe condition on these products.

DATES: The FAA must receive comments on this proposed AD by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

ADDRESSES: You may send comments, using the procedures found in 14 CFR 11.43 and 11.45, by any of the following methods:

- Federal eRulemaking Portal: Go to [regulations.gov](https://www.regulations.gov). Follow the instructions for submitting comments.
- Fax: 202-493-2251.
- Mail: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE, Washington, DC 20590.

- Hand Delivery: Deliver to Mail address above between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

AD Docket: You may examine the AD docket at [regulations.gov](https://www.regulations.gov) under Docket No. FAA-2022-1662; or in person at Docket Operations between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this NPRM, the mandatory continuing airworthiness information (MCAI), any comments received, and other information. The street address for Docket Operations is listed above.

Material Incorporated by Reference:

- For Bombardier service information identified in this NPRM, contact Bombardier Business Aircraft Customer Response Center, 400 Côte-Vertu Road West, Dorval, Québec H4S 1Y9, Canada; telephone 514-855-2999; email ac.yul@aero.bombardier.com; website [bombardier.com](https://www.bombardier.com).

- You may view this service information at the FAA, Airworthiness Products Section, Operational Safety Branch, 2200 South 216th St., Des Moines, WA. For information on the availability of this material at the FAA, call 206-231-3195.

FOR FURTHER INFORMATION CONTACT: Steven Dzierzynski, Aerospace Engineer, Avionics & Electrical Systems Section, FAA, New York ACO Branch, 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; telephone 516-228-7367; email 9-avs-nyaco-cos@faa.gov.

SUPPLEMENTARY INFORMATION:

Comments Invited

The FAA invites you to send any written relevant data, views, or arguments about this proposal. Send your comments to an address listed under ADDRESSES. Include “Docket No. FAA-2022-1662; Project Identifier MCAI-2022-00689-T” at the beginning of your comments. The most helpful comments reference a specific portion of the proposal, explain the reason for any recommended change, and include supporting data.

The FAA will consider all comments received by the closing date and may amend the proposal because of those comments.

Except for Confidential Business Information (CBI) as described in the following paragraph, and other information as described in 14 CFR 11.35, the FAA will post all comments received, without change, to [regulations.gov](https://www.regulations.gov), including any personal information you provide. The agency will also post a report summarizing each substantive verbal contact received about this NPRM.

Confidential Business Information

CBI is commercial or financial information that is both customarily and actually treated as private by its owner. Under the Freedom of Information Act (FOIA) (5 U.S.C. 552), CBI is exempt from public disclosure. If your comments responsive to this NPRM contain commercial or financial information that is customarily treated as private, that you actually treat as private, and that is relevant or responsive to this NPRM, it is important that you clearly designate the submitted comments as CBI. Please mark each page of your submission containing CBI as “PROPIN.” The FAA will treat such marked submissions as confidential under the FOIA, and they will not be placed in the public docket of this NPRM. Submissions containing CBI should be sent to Steven Dzierzynski, Aerospace Engineer, Avionics & Electrical Systems Section, FAA, New York ACO Branch, 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; telephone 516-228-7367; email 9-avs-nyaco-cos@faa.gov. Any commentary that the FAA receives which is not specifically designated as CBI will be placed in the public docket for this rulemaking.

Background

Transport Canada, which is the aviation authority for Canada, has issued Transport Canada AD CF-2022-28, dated June 9, 2022 (Transport Canada AD CF-2022-28) (also referred to after this as the MCAI), to correct an unsafe condition on certain Bombardier, Inc., Model BD-100-1A10 airplanes. The MCAI states there have

been multiple reports of erratic electrical system status on the PBAs and the EICAS while on-ground and during flight, and in several cases, leading to momentary loss of electrical power and loss of flight displays following flight crew responses to the erratic statuses. It was found that airplanes could experience misleading electrical system status indications (PBA and EICAS) as a result of contamination of electrical contacts in the LH DCPC internal communication data bus. Those erratic indications could cause the crew to turn off fully-operational electrical power sources, leading to partial or complete loss of electrical power. Loss of electrical power could result in the loss of flight displays and reduced controllability of the airplane.

The MCAI also stated that Transport Canada previously issued CF-2020-46, dated November 17, 2020 (which corresponds to FAA AD 2021-23-14, Amendment 39-21812 (86 FR 68889, December 6, 2021)), which mandated the use of revised Electrical Emergency and Non-Normal Procedures in the airplane flight manual that directed crews not to turn off active generators in the event of an erroneous electrical system status indication. The MCAI advised that further corrective action is being developed to introduce a design improvement to the DCPC that is intended to protect the internal communication data bus from contaminants, and that a time-limited maintenance check will also be implemented.

You may examine the MCAI in the AD docket at [regulations.gov](https://www.regulations.gov) under Docket No. FAA-2022-1662.

Related Service Information Under 1 CFR Part 51

The FAA reviewed Bombardier Service Bulletins 100-24-29 and 350-24-004, both dated April 9, 2021. This service information specifies procedures for a records check to determine the total flight hours and replacement of affected LH DCPC units (part numbers 975GC02Y04, 975GC0Y05, 975GC02Y06, or 975GC02Y07). These documents are distinct since they apply to different airplane configurations. This service

information is reasonably available because the interested parties have access to it through their normal course of business or by the means identified in the ADDRESSES section.

FAA's Determination

This product has been approved by the aviation authority of another country, and is approved for operation in the United States. Pursuant to the FAA's bilateral agreement with this State of Design Authority, it has notified the FAA of the unsafe condition described in the MCAI and service information described above. The FAA is issuing this NPRM after determining that the unsafe condition described previously is likely to exist or develop on other products of the same type design.

Proposed AD Requirements in this NPRM

This proposed AD would require accomplishing the actions specified in the service information already described, except as discussed under "Differences Between this NPRM and the MCAI or Service Information."

Differences Between this NPRM and the MCAI or Service Information

The note to paragraph 2.B.(4) in Bombardier Service Bulletins 100-24-29 and 350-24-004, both dated April 9, 2021, specifies to reset the unit total flight hours to zero at date of incorporation. This proposed AD would not require that action.

Interim Action

The FAA considers that this proposed AD would be an interim action. The MCAI states that further corrective action is being developed. Once this action is developed, approved, and available, the FAA might consider additional rulemaking.

Costs of Compliance

The FAA estimates that this AD, if adopted as proposed, would affect 315 airplanes of U.S. registry. The FAA estimates the following costs to comply with this proposed AD:

Estimated costs for required actions

Labor cost	Parts cost	Cost per product	Cost on U.S. operators
1 work-hours X \$85 per hour = \$85	\$0	\$85	\$26,775

The FAA estimates the following costs to do any necessary on-condition actions that would be required based on the results of any required actions. The FAA has no way of determining the number of aircraft that might need this on-condition action:

Estimated costs of on-condition actions

Labor cost	Parts cost	Cost per product
8 work-hours X \$85 per hour = \$680	Up to \$35,000	Up to \$35,680

The FAA has included all known costs in its cost estimate. According to the manufacturer, however, some or all of the costs of this proposed AD may be covered under warranty, thereby reducing the cost impact on affected operators.

Authority for this Rulemaking

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. Subtitle VII: Aviation Programs, describes in more detail the scope of the Agency's authority.

The FAA is issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701: General requirements. Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

Regulatory Findings

The FAA determined that this proposed AD would not have federalism implications under Executive Order 13132. This proposed AD would not have a substantial direct effect on the States, on the relationship between the national Government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify this proposed regulation:

- (1) Is not a “significant regulatory action” under Executive Order 12866,
- (2) Would not affect intrastate aviation in Alaska, and
- (3) Would not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

The Proposed Amendment

Accordingly, under the authority delegated to me by the Administrator, the FAA proposes to amend 14 CFR part 39 as follows:

PART 39 - AIRWORTHINESS DIRECTIVES

- 1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

§ 39.13 [Amended]

- 2. The FAA amends § 39.13 by adding the following new airworthiness directive:

Bombardier, Inc.: Docket No. FAA-2022-1662; Project Identifier

MCAI-2022-00689-T.

(a) Comments Due Date

The FAA must receive comments on this airworthiness directive (AD) by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

(b) Affected ADs

None.

(c) Applicability

This AD applies to Bombardier, Inc., Model BD-100-1A10 airplanes, certificated in any category, having serial number 20003 through 20795 inclusive, 20797 through 20812 inclusive, 20814 through 20832 inclusive, and 20834 through 20836 inclusive.

(d) Subject

Air Transport Association (ATA) of America Code 24, Electrical Power.

(e) Unsafe Condition

This AD was prompted by multiple reports of erratic electrical system status on the push button annunciators (PBAs) and the engine instrument and crew alerting system (EICAS) while on-ground and during flight. The FAA is issuing this AD to address erratic indications, which could cause the flight crew to turn off fully-operational electrical power sources, leading to partial or complete loss of electrical power. The unsafe condition, if not addressed, could result in loss of electrical power could result in the loss of flight displays and reduced controllability of the airplane.

(f) Compliance

Comply with this AD within the compliance times specified, unless already done.

(g) Records Check

Within 60 days after the effective date of this AD, verify the total flight hours of the left-hand (LH) direct current power center (DCPC) unit since the date of manufacture by doing a records check in accordance with paragraph 2.B.(1) of the Accomplishment

Instructions of the applicable service bulletin identified in paragraphs (g)(1) and (2) of this AD.

(1) For airplanes having serial number 20001 through 20500 inclusive, use Bombardier Service Bulletin 100-24-29, dated April 9, 2021.

(2) For airplanes having serial number 20501 through 20999 inclusive, use Bombardier Service Bulletin 350-24-004, dated April 9, 2021.

(h) Replacement of the LH DCPC

If, during the records check required by paragraph (g) of this AD, the total flight hours since date of manufacture of the LH DCPC unit is equal to or more than 3,100 total flight hours and the LH DCPC has not been cleaned as specified in Safran Service Bulletin 975GC02Y-24-018 before the effective date of this AD: Within 19 months after the effective date of this AD, replace the LH DCPC unit in accordance with paragraphs 2.B.(2) through 2.B.(5) and 2.C. of the Accomplishment Instructions of the applicable service bulletin identified in paragraphs (g)(1) and (2) of this AD.

(i) Exception to the Service Information

Although the note in paragraph 2.B.(4) of the Accomplishment Instructions of Bombardier Service Bulletins 100-24-29, and 350-24-004, both dated April 9, 2021, specifies that actions will reset “the unit total flight hours to zero at date of incorporation,” this AD does not include that requirement.

(j) Additional AD Provisions

The following provisions also apply to this AD:

(1) *Alternative Methods of Compliance (AMOCs)*: The Manager, New York ACO Branch, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or responsible Flight Standards Office, as appropriate. If sending information directly to the manager of the New York ACO Branch, mail it to

ATTN: Program Manager, Continuing Operational Safety, at the address identified in paragraph (k)(1) of this AD or email to: 9-avs-nyaco-cos@faa.gov. If mailing information, also submit information by email. Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the responsible Flight Standards Office.

(2) *Contacting the Manufacturer:* For any requirement in this AD to obtain instructions from a manufacturer, the instructions must be accomplished using a method approved by the Manager, New York ACO Branch, FAA; or Transport Canada; or Bombardier, Inc.'s Transport Canada Design Approval Organization (DAO). If approved by the DAO, the approval must include the DAO-authorized signature.

(k) Additional Information

(1) Refer to Transport Canada AD CF-2022-28, dated May 26, 2022, for related information. This Transport Canada AD may be found in the AD docket at regulations.gov under Docket No. FAA-2022-1662.

(2) For more information about this AD, contact Steven Dzierzynski, Aerospace Engineer, Avionics & Electrical Systems Section, FAA, New York ACO Branch, 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; telephone 516-228-7367; email 9-avs-nyaco-cos@faa.gov.

(l) Material Incorporated by Reference

(1) The Director of the Federal Register approved the incorporation by reference (IBR) of the service information listed in this paragraph under 5 U.S.C. 552(a) and 1 CFR part 51.

(2) You must use this service information as applicable to do the actions required by this AD, unless this AD specifies otherwise.

(i) Bombardier Service Bulletin 100-24-29, dated April 9, 2021.

(ii) Bombardier Service Bulletin 350-24-004, dated April 9, 2021.

(3) For Bombardier service information identified in this AD, contact Bombardier Business Aircraft Customer Response Center, 400 Côte-Vertu Road West, Dorval, Québec H4S 1Y9, Canada; telephone 514-855-2999; email ac.yul@aero.bombardier.com; website bombardier.com.

(4) You may view this service information at the FAA, Airworthiness Products Section, Operational Safety Branch, 2200 South 216th St., Des Moines, WA. For information on the availability of this material at the FAA, call 206-231-3195.

(5) You may view this service information that is incorporated by reference at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, email fr.inspection@nara.gov, or go to: www.archives.gov/federal-register/cfr/ibr-locations.html.

Issued on January 2, 2023.

Christina Underwood, Acting Director,
Compliance & Airworthiness Division,
Aircraft Certification Service.

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